Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 26. Cancel

27. (Previously Presented) A composition comprising at least one protein which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium.

28. (Previously Presented) The composition of claim 27, wherein said strains are selected from the group consisting of *M. tuberculosis, M. bovis, M. avium, M. africanum, M. kanasasii, M. intracellulare, M. ulcerans, M. paratuberculosis, M. simiae, M. scrofulaceum, M. szulgai, M. xenopi, M. fortuitum, M. chelonei, M. leprae* and *M. marinum.*

29. (Previously Presented) The composition of claim 27, wherein said protein is differentially expressed in the virulent strain, *M. tuberculosis*, as compared to the avirulent strain, *M. bovis*.

30. (Previously Presented) The composition of claim 29, wherein said virulent strain is *M. tuberculosis* H37Rv or *M. tuberculosis Erdman* and said avirulent strain is *M. bovis* BCG.

31. (Previously Presented) The composition of claim 30 wherein said protein is differentially expressed in *M. tuberculosis* H37Rv or *M. tuberculosis Erdman* as compared to *M. bovis* BCG.

32. (Previously Presented) The composition of claim 27, wherein said protein is selected from the group consisting of isopropyl malate synthase (Rv3710), s-adenosylmethionine synthase metK (Rv1392), succinyl-CoA synthase α-chain sucD (Rv0952), oxidoreductase of aldo/keto reductase family (Rv2971), oxidoreductase (Rv0068), elongation factor G (Rv0120c), uridylate kinase (Rv2883c), ABC-type transporter (Rv1463), short chain dehydrogenase/reductase family protein (Rv1856c), 1,3,4,6-tetrachloro-1,4,-cyclohexadiene hydrolase (Rv2579), phosphoribosylaminoimidazole carboxylase catalytic

subunit (Rv3275c), hypothetical protein (Rv2557), and hypothetical protein (Rv3407), hypothetical protein (Rv3881c), hypothetical protein (Rv2449c), hypothetical protein (Rv0036c), hypothetical protein (Rv2005c) and transcriptional regulator (Crp/Fnr family) (Rv3676).

33. (Previously Presented) The composition comprising at least one differentially expressed protein of claim 27, wherein said differentially expressed protein is biochemically modified, biophysically modified, recombinantly modified or a combination thereof.

34. (Previously Presented) A composition comprising an antigenic fragment of the protein of claim 27.

35. (Previously Presented) A fusion protein comprising a protein of claim 27, an antigenic fragment of said protein or a combination thereof.

36. (Previously Presented) A fusion protein comprising at least two proteins of claim 27, at least one antigenic fragment of the protein of claim 27 or a combination thereof.

37. (Previously Presented) The fusion protein of claim 35, wherein said fusion protein comprises an immunostimulatory molecule.

38. (Previously Presented) The fusion protein of claim 36, wherein said fusion protein comprises an immunostimulatory molecule.

39. (Previously Presented) The fusion protein of claim 35, wherein said fusion protein comprises a molecule capable of optimizing antigen processing.

40. (Previously Presented) The fusion protein of claim 36, wherein said fusion protein comprises a molecule capable of optimizing antigen processing.

41. (Previously Presented) A composition comprising at least one fusion protein of claim 35.

42. (Previously Presented) A composition comprising at least one fusion protein of claim 37.

43. (Previously Presented) A composition comprising at least one fusion protein of claim 39.

44. (Currently Amended) A nucleic acid molecule coding for a protein ~~of claim 27~~ which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium, an antigenic fragment of said protein, a fusion protein comprising said protein, ~~or~~ said antigenic fragment or a combination thereof.

45. (Previously Presented) A composition comprising at least one nucleic acid molecule of claim 44.

46. (Cancel)

47. (Cancel)

48. (Currently Amended) A composition comprising a composition selected from the group consisting of: a) at least one protein which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, and d) a nucleic acid molecule of claim 44 ~~coding for said protein, said antigenic fragment of said protein, a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof or e) at least one antibody or a fragment or a derivative thereof of claim 46~~, wherein said composition is a pharmaceutical composition further comprising, optionally, a pharmaceutically acceptable carrier.

49. (Previously Presented) The composition of claim 48, wherein said composition comprises a pharmaceutically acceptable carrier and said composition is a vaccine.

50. (Currently Amended) A composition comprising a composition comprising selected from the group consisting of: a) at least one protein which is differentially expressed in a virulent strain as compared to an avirulent strain of the genus Mycobacterium; b) an antigenic fragment of said protein; c) a fusion protein comprising at least one of said protein or an antigenic fragment of said protein, and d) a nucleic acid molecule of claim 44 ~~coding for~~

~~said protein, said antigenic fragment of said protein, a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof or e) at least one antibody or a fragment or a derivative thereof of claim 46, or e) at least one antibody or a fragment or a derivative thereof of claim 46~~, wherein said composition is a diagnostic composition further comprising, optionally, suitable means for detection.

51. (Previously Presented) A method for the production of a vaccine against a virulent strain of the genus Mycobacterium comprising the steps of

(a) recombinantly expressing a differentially expressed protein of claim 27, an antigenic fragment of said protein, or a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof; and

(b) combining said recombinantly expressed differentially expressed protein, said antigenic fragment or said fusion protein with a pharmaceutically acceptable carrier.

52. (Currently Amended) A method for the production of a vaccine against a virulent strain of the genus Mycobacterium comprising combining a vector comprising a nucleic acid molecule ~~encoding a differentially expressed protein~~ of claim 44 ~~27, an antigenic fragment of said protein, or a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof~~ with a biologically acceptable carrier, wherein said nucleic acid molecule in said vector is placed under the control of an expression control sequence.

53. (Previously Presented) The method of claim 52, wherein a nucleic acid molecule encodes said protein, an antigenic fragment of said protein, or a fusion protein comprising said protein, an antigenic fragment of said protein or a combination thereof.

54. (Previously Presented) A method of preventing, ameliorating or treating a Mycobacterium induced disease comprising administering an effective amount of the vaccine of claim 49 to a subject to prevent, ameliorate or treat a Mycobacterium induced disease in said subject

55. (Previously Presented) The method of claim 54, wherein said Mycobacterium induced disease is selected from the group consisting of tuberculosis, leprosy, tropical skin ulcer, ulceration, abscess, granulomatous (skin) disease, pulmonary disease, lymphadenitis, and cutaneous and disseminated disease.

56. (Previously Presented) A method of detecting the presence of Mycobacterium in a sample, comprising contacting the composition of claim 50 with a sample suspected of containing at least one component associated with Mycobacterium, wherein said component comprises Mycobacterium, pathogenic fragments thereof or derivatives thereof, proteins thereof or polynucleotides encoding said Mycobacterium, fragments thereof, derivatives thereof or proteins thereof, and detecting the presence of at least one component in said sample.

57. (Previously Presented) The method of claim 56, wherein said detection of said component associated with Mycobacterium is indicative of Mycobacterium induced disease selected from the group consisting of tuberculosis, leprosy, tropical skin ulcer, ulceration, abscess, granulomatous (skin) disease, pulmonary disease, lymphadenitis, and cutaneous and disseminated disease.

58. (New) The composition of claim 45, wherein said strains are selected from the group consisting of *M. tuberculosis, M. bovis, M. avium, M. africanum, M. kanasasii, M. intracellulare, M. ulcerans, M. paratuberculosis, M. simiae, M. scrofulaceum, M. szulgai, M. xenopi, M. fortuitum, M. chelonei, M. leprae* and *M. marinum.*

59. (New) The composition of claim 45, wherein said protein is differentially expressed in the virulent strain, *M. tuberculosis*, as compared to the avirulent strain, *M. bovis*.

60. (New) The composition of claim 59, wherein said virulent strain is *M. tuberculosis* H37Rv or *M. tuberculosis Erdman* and said avirulent strain is *M. bovis* BCG.

61. (New) The composition of claim 60 wherein said protein is differentially expressed in *M. tuberculosis* H37Rv or *M. tuberculosis Erdman* as compared to *M. bovis* BCG.

62. (New) The composition of claim 45, wherein said protein is selected from the group consisting of isopropyl malate synthase (Rv3710), s-adenosylmethionine synthase metK (Rv1392), succinyl-CoA synthase α-chain sucD (Rv0952), oxidoreductase of aldo/keto reductase family (Rv2971), oxidoreductase (Rv0068), elongation factor G (Rv0120c), uridylate kinase (Rv2883c), ABC-type transporter (Rv1463), short chain dehydrogenase/reductase family protein (Rv1856c), 1,3,4,6-tetrachloro-1,4,-cyclohexadiene hydrolase (Rv2579), phosphoribosylaminoimidazole carboxylase catalytic subunit (Rv3275c), hypothetical protein (Rv2557), and hypothetical protein (Rv3407), hypothetical protein (Rv3881c), hypothetical protein (Rv2449c), hypothetical protein (Rv0036c), hypothetical protein (Rv2005c) and transcriptional regulator (Crp/Fnr family) (Rv3676).